

### AMENDMENTS TO THE CLAIMS

Please amend the claims as shown below.

1. (Currently amended) A polypeptide fragment capable of raising a specific T-cell response, said fragment comprising a peptide selected from the group consisting of: rlqeertck (SEQ ID NO:245), rlqeertckv (SEQ ID NO:297), qlcpicrapv (SEQ ID NO:298), vleppgardv (SEQ ID NO:301), and functional equivalents having at least 75% sequence identity thereto; wherein said polypeptide fragment comprises at the most 15 amino acids.
2. (Currently amended) The polypeptide fragment according to claim 1, wherein said functional equivalent comprises either:
  - substitutions only in the preferred positions and only to preferred amino acid residues for a given HLA allele as identified in table 2 or,
  - at the most 10 amino acids.
3. (Cancelled)
4. (Currently amended) The polypeptide fragment according to ~~any of claims~~ claim 1 to 3, wherein the specific T-cell response is measured as more than 50 peptide specific spots per  $10^6$  cells in an ELISPOT assay performed either:
  - without pre-stimulation in vitro or,
  - after stimulation in vitro or,
  - using PBL from an individual that has not been subjected to immune therapy against a neoplastic disease.
- 5 – 6. (Cancelled)
7. (Currently amended) The polypeptide fragment according to ~~any of claims~~ claim 1 to 3, wherein the polypeptide fragment is characterised by having a  $C_{50}$  value, measured as the

concentration ( $\mu\text{M}$ ) of the polypeptide fragment required for half maximal binding to a MHC (Major Histocompatibility Complex) class I molecule of less than 1000.

8 – 11. (Cancelled)

12. (Currently amended) A polypeptide fragment according to ~~any of claims~~ claim 1 to 11, wherein the fragment is capable of activating T-cell growth in vitro.

13. (Cancelled)

14. (Currently amended) A method of selecting a peptide comprising a fragment of ML-IAP for use in a vaccine composition comprising the steps of

- i) ~~Providing~~ providing an individual who has not been subjected to immune therapy,
- ii) ~~Providing~~ providing a polypeptide fragment comprising a peptide consisting of at least 9 consecutive amino acid residues of ML-IAP (SEQ ID NO: 1),
- iii) ~~Testing~~ testing specific T-cell responses against fragments of ML-IAP in said individual,
- iv) ~~Selecting~~ selecting fragments of ML-IAP wherein said T-cell response corresponds to or is better than a predetermined selection criterium.

15. (Currently amended) The method according to claim 14, wherein said peptide is selected from the group consisting of: rlqeertck (SEQ ID NO:245), qilgqlrpl (SEQ ID NO:55), ltaevppel (SEQ ID NO:100), gmgseelrl (SEQ ID NO:84), elptprrev (SEQ ID NO:200), rlqeertckv (SEQ ID NO:297), qlcpicrapv (SEQ ID NO:298), llrskgrdfv (SEQ ID NO:300), vleppgardv (SEQ ID NO:301), ~~and~~ pltaevppel (SEQ ID NO:302), and functional equivalents having at least 75% sequence identity thereto.

16. (Original) The method according to claim 15, wherein said polypeptide fragment comprises at the most 15 amino acids.

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17. (Cancelled)

18. (Currently amended) The method according to claim ~~17~~ 14, wherein said predetermined selection criterium is more than 50 peptide specific spots per  $10^6$  cells in said ELISPOT assay.

19. (Currently amended) A medicament for treating a clinical condition in an individual in need thereof, comprising a polypeptide fragment according to any of claims claim 1 to 13 for use as a medicament.

20. (Currently amended) A method Use of treatment of a clinical condition in an individual in need thereof comprising administering a medicament comprising one or more polypeptide fragments according to claim 1. ~~in the manufacture of medicament for treatment of a clinical condition in an individual in need thereof.~~

21. (Currently amended) The method Use according to claim 20, wherein said clinical condition is:

- cancer or,
- malignant melanoma or,
- an auto-immune disease.

22 – 23. (Cancelled)

24. (Currently amended) The method Use according to ~~any of claims claim 20 to 23,~~ wherein at least one of said polypeptide fragments is restricted to an HLA molecule present in said individual.

25 – 26. (Cancelled)

27. (Currently amended) A vaccine composition comprising at least one ~~an~~ isolated polypeptide comprising a at least one peptide selected from the group consisting of: rlqeertck (SEQ ID NO:245), rlqeertckv (SEQ ID NO:297), qlcpicrapv (SEQ ID NO:298), vleppgardv (SEQ ID NO:301), and functional equivalents having at least 75% sequence identity thereto; and a pharmaceutically acceptable carrier and/or adjuvant.

28 – 29. (Cancelled)

30. (Currently amended) The vaccine composition according to claim 27 ~~29~~ ~~wherein the comprising an adjuvant~~, wherein the adjuvant is selected from the group consisting of Montanide IAS-51 and QS-21.

31. (Cancelled)

32. (Currently amended) The vaccine composition according to claim 27 ~~31~~ comprising a carrier, wherein the carrier is a dendritic cell.

33. (Currently amended) The vaccine compositions according to claim 27 ~~to 28~~, wherein the composition comprises more than one different ML-IAP fragment according to ~~any of~~ claims 1 to 13.

34. (Cancelled)

35. (Currently amended) The vaccine composition according to claim 33, wherein the composition comprises:

- at least 2 different ML-IAP fragments each capable of associating with a different HLA molecule selected from the group consisting of HLA-A2, HLA-A1, HLA-A3, HLA-A24, HLA-B7, HLA-B27, and HLA-B44 or,
- at least one class I-restricted ML-AIP peptide and at least one class II-restricted ML-IAP peptide.

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36. (Cancelled)
37. (Currently amended) A pharmaceutical composition comprising the vaccine composition according to ~~any of claims~~ claim 27 to 36 and an anti-cancer medicament.
38. (Cancelled)
39. (Currently amended) A kit-of parts comprising at least one polypeptide comprising a at least one peptide selected from the group consisting of rlqeertck (SEQ ID NO:245), rlqeertckv (SEQ ID NO:297), qlcpicrapv (SEQ ID NO:298), vleppgardv (SEQ ID NO:301) and functional equivalents having at least 75% sequence identity thereto; and a bioactive compound selected from the group consisting of a chemotherapeutic agent, an immunotherapeutic agent, and a second cancer vaccine composition.
40. (Cancelled)
41. (Currently amended) A method for treatment or prophylactic treatment of an individual diagnosed with cancer or at risk of developing a cancer, said method comprising the step of administering to the individual;
- the polypeptide fragment according to ~~any of claims 1 to 13~~,
  - or a ~~the vaccine composition according to any of claims 27 to 36~~, composition comprising at least one an isolated polypeptide comprising a at least one peptide selected from the group consisting of rlqeertck (SEQ ID NO:245), rlqeertckv (SEQ ID NO:297), qlcpicrapv (SEQ ID NO:298), vleppgardv (SEQ ID NO:301) and functional equivalents having at least 75% sequence identity thereto; and a pharmaceutically acceptable carrier and/or adjuvant,
  - or said vaccine comprising an anti-cancer medicament, ~~the pharmaceutical composition according to any of claims 37 and~~

- or ~~the~~ a kit of parts comprising at least one polypeptide comprising a at least one peptide selected from the group consisting of rlqeertck (SEQ ID NO:245), rlqeertckv (SEQ ID NO:297), qlcpicrapv (SEQ ID NO:298), vleppgardv (SEQ ID NO:301) and functional equivalents having at least 75% sequence identity thereto; and a bioactive compound selected from the group consisting of a chemotherapeutic agent, an immunotherapeutic agent, and a second cancer vaccine composition according to any of claims 39 and 40.

42 - 44. (Cancelled)

45. (Currently amended) A method for raising a specific T-cell response against an epitope of ML-IAP (SEQ ID NO:1) in an individual, said method comprising the steps of administering to the individual a polypeptide fragment according to ~~any of claims~~ claim 1 to 13, and raising a specific T-cell response against an epitope of ML-IAP in the individual.

46. (Cancelled)

47. (Currently amended) An antibody capable of specific recognition of a polypeptide fragment according to ~~any of claims 1 to 13~~.

48. (Currently amended) A method for activating and expanding T-cells specific for ML-IAP or fragments thereof comprising the steps of co-cultivating T-cells and one or more polypeptide fragments according to ~~any of claims~~ claim 1 to 13.

49. (Currently amended) The method according to ~~claims~~ claim 48, wherein the method comprises:

generating and loading monocyte-derived dendritic cells (DC) with said polypeptide fragment(s) and co-cultivating said DC and periferal blood monocytes (PBMC) comprising T-cells or,

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generating *Drosophila melanogaster* cells expressing one or more different HLA molecules, loading said *Drosophila melanogaster* cells with said polypeptide fragment(s) and co-cultivating said *Drosophila* cells with perifiral blood monocytes (PBMC) comprising T-cells or T-cells purified from PBMC.

50. (Cancelled)

51. (Currently amended) ML-IAP specific T-cells obtained by the method according to ~~any of~~ claims claim 48 to 50.

52. (Cancelled)

53. (Currently amended) ~~Use of A method of treatment of a clinical condition in an individual in need thereof, comprising administering a medicament comprising ML-IAP specific T-cells according to any of elaims claim 51 52 and 53 for the preparation of a medicament for treatment of a clinical condition in an individual in need thereof.~~